KENNEDY SPACE CENTER

KENNEDY DOCUMENTED PROCEDURE KDP-KSC-P-3008

HAZARDOUS MATERIALS EMERGENCY RESPONSE

Director, John F. Kennedy Space Center

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1. PURPOSE

This document is intended for the National Aeronautics and Space Administration (NASA) Kennedy Space Center (KSC) to ensure implementation of Kennedy NASA Procedural Requirements 8715.2, "Comprehensive Emergency Management Plan (CEMP)." This Kennedy Documented Procedure (KDP) provides employees emergency response procedures for the reporting, control, and cleanup of a hazardous material (HAZMAT) release. This KDP also provides guidance and direction on HAZMAT releases requiring external resources such as HAZMAT response teams and HAZMAT spill cleanup teams.

2. APPLICABILITY

This KDP applies to all KSC civil servants and KSC contractor organizations operating within the boundaries of KSC.

3. ROLES AND RESPONSIBILITIES

3.1 Discoverer

The discoverer (HAZMAT user or personnel frequenting HAZMAT areas) is required to be trained in hazardous communications, the proper identification of a HAZMAT leak or spill, and reporting the incident to the proper authorities.

3.2 Senior Fire Official

The Senior Fire Official is the highest-ranking officer responding from the fire department with all the necessary authority, training, and credentials to direct, command, and control the situation at the scene.

3.3 Incident Commander (IC)

For HAZMAT response purposes, the IC is also the Senior Fire Official and is trained in accordance with KDP-KSC-P-3018, National Incident Management System Component Structure at KSC.

3.4 Spill Cleanup Team

The Spill Cleanup Team is operated by the KSC Spill Response Team and shall respond to the IC to perform cleanup of a HAZMAT spill or leak.

3.5 Protective Services Control Center (PSCC)

The PSCC is the 911 dispatch center and the location for receipt of all calls related to an emergency response. The PSCC supports the IC by dispatching the necessary equipment and personnel to contain and neutralize a HAZMAT release.

3.6 Oil Spill Response Organization

The Oil Spill Response Organization is operated by Institutional Services Contract (ISC) and is the organization that maintains and uses specialized equipment to clean up oil spills on water.

4. EXECUTION

4.1 Implementation of this KDP commences when the release of a hazardous substance is detected. Each organization that handles, uses, or comes in contact with HAZMATs shall develop ancillary plans and procedures to be implemented when there is a HAZMAT incident within their area of responsibility. The required HAZMAT response process is depicted in Appendix A, Hazardous Materials Emergency Response. When there is a release of a hazardous material, the discoverer shall:

4.1.1 Verbally alert others in the area.

4.1.2 Activate emergency alarms, if appropriate.

4.1.3 Call 911 for emergency and nonemergency release.

4.1.4 Isolate and contain any spillage that can be accomplished safely (nonflammable and nontoxic chemicals only).

4.1.5 Proceed to the marshalling area if the release involves toxic, explosive, or flammable chemicals, unidentified HAZMATs or hazardous wastes, or if personal safety is jeopardized in any manner.

4.1.6 Assist in safe evacuation of personnel without risking personal safety.

4.1.7 Provide the following information to the 911 dispatcher, if known or can reasonably be determined:

- Name of person reporting release.
- Release location.
- Number of injured personnel and nature of injuries.
- Substance released.
- Amount released (estimated).
- Rate substance currently releasing (estimated).
- Time release occurred (estimated).
- Extent to which release has traveled and any other pertinent information.

4.1.8 Advise the Senior Fire Official on the specifics at the release site.

4.1.9 Remain with the Senior Fire Official to provide information or assistance until dismissed.

4.1.10 Notify immediate supervisor of HAZMAT incident.

4.2 The IC shall implement the 8-step process for a HAZMAT response, outlined as follows:

4.2.1 Step 1 – Site Evaluation and Management.

1. IC establishes on-scene command post.
2. IC directs KSC Environmental Health response.
3. IC activates follow-on elements, such as cleanup and recovery, as required.
4. ISC Duty Office notifies appropriate agencies, e.g., Port Authority, Coast Guard, NASA Emergency Management Officer, and KSC Environmental Program Office, of HAZMAT incident.

4.2.2 Step 2 – HAZMAT Identification.

1. IC forms Oil/HAZMAT Reconnaissance Team.
2. Environmental Health identifies hazards.

4.2.3 Step 3 – HAZMAT Evaluation.

IC evaluates hazards and risks reported by Reconnaissance Team

4.2.4 Step 4 – Personal Protective Equipment Assessment.

IC consults with Environmental Health and specifies level of personal protective equipment.

4.2.5 Step 5 – Emergency Response Planning.

1. IC identifies options and hazards with appropriate emergency support functions.
2. IC implements most appropriate option.
3. IC evaluates need for additional resources available through Emergency Operations Center.
4. IC develops a plan that:
   - Reflects operational priorities.
   - Includes strategy and tactics for the prevention of fire, explosion, and loss of life.
   - Includes strategy and tactics for the protection of environmentally sensitive shoreline areas.
   - Includes strategy and tactics for the containment or capture of spill.
   - Includes strategy and tactics for the isolation of facilities and vessels from spill effects.

4.2.6 Step 6 – Containment and Control Operations.

1. Conducted by Fire Department HAZMAT Team.
2. Marine Patrol to provide surveillance and perimeter security as required.

4.2.7 Step 7 – Cleanup and Decontamination.

1. Response phase ends.
2. IC demobilizes emergency response assets.
3. IC transfers command and control to cleanup agency (Spill Cleanup Team).
4. Cleanup operations include:
   - Operation of skimmers and vacuum truck.
   - Deployment and retrieval of sorbents.
   - Removal of residue.
   - Temporary storage of residue.
   - Cleanup of equipment.

4.2.8 Step 8 – Termination, Recovery, and Reporting.

1. KSC Spill Response Team prepares pollution incident reports for KSC and forwards to NASA Environmental Program Office. Pollution incident reports are also submitted to the NASA Emergency Management Officer, as requested.
2. All media releases will be coordinated and released by KSC Public Affairs.
3. The KSC Environmental Assurance Branch shall conduct all regulatory reporting to state and Federal environmental agencies.

4.3 HAZMAT Spills on Water

Operational priorities in order of precedence for a spill-on-water response shall include:

1. The prevention of fire or explosion.
2. The prevention of loss of life.
3. The protection of environmentally sensitive shoreline areas.
4. The containment and capture of the spill.
5. The isolation of facilities and vessels from the effects of the spill.
6. Compliance with Environmental Protection Agency and Florida law.

7. Deploying containment equipment on the water within one hour after discovery of the release.
8. Providing the capability within a reasonable time period to contain, control, clean up, and dispose of up to 10,000 gallons of pollutants. (Note: Any amount over 10,000 gallons will require assistance from a service outside of KSC.)

5. TRAINING REQUIREMENTS

5.1 Hazardous Waste Operations and Emergency Response Standard Training

In addition to the National Incident Management System training required by KDP-KSC-P-3018, KSC emergency response organizations shall also comply with Hazardous Waste Operations and Emergency Response Standard training (see Code of Federal Regulations (CFR) 29, Part 1910.120(q)). The extent and depth of Hazardous Waste Operations and Emergency Response Standard training depends on an employee's function during a HAZMAT incident and the operation zones where the function is performed. The training levels in 29 CFR 1910.120(q) are listed as follows:

- First Responder Awareness Level (basic knowledge, how to identify and report).
- First Responder Operational Level (warm zone, personnel decontamination).
- HAZMAT Technician Level (Fire Department, HAZMAT team, propellant teams, and pad systems mechanics).
- HAZMAT Specialists Level (Environmental Health).
- IC Level (Senior Fire Officials and ICs).

NOTE: Most responders do not enter the cordon (cold, warm, or hot zone) and require only Hazardous Communications Level or First Responder Awareness Level training.

5.2 HAZMAT Exercises

5.2.1 An annual HAZMAT exercise shall be performed demonstrating all the levels of the Incident Management System.

5.2.2 Exercises shall be conducted in a hazardous payload facility or flight hardware processing facility and incorporate modes of transportation and carriers utilized to respond to the scene of the incident. The required exercises may be tabletop or functional in nature.

6. DEFINITIONS

6.1 HAZMAT

HAZMAT is considered any element, compound, mixture, solution, or substance listed in 49 CFR 172.101, or 40 CFR 302.4, including untreated sewage, petroleum products, by-products, and hypergolic propellants.

6.2 Hypergolic Propellant

Hypergolic propellants are defined as any substance containing any of the following: anhydrous hydrazine; monomethylhydrazine; aerozine-50, a 50:50 mixture by volume of anhydrous hydrazine and unsymmetrical dimethylhydrazine; and nitrogen tetroxide.

6.3 HAZMAT Release

A HAZMAT release is defined as the spilling, discharging, placing, percolating, draining, pumping, leaking, seeping, emitting, disposing, bypassing, or other escaping of a HAZMAT into the air, water, subsurface water, or onto the ground.

NOTE: All HAZMAT releases must be reported via 911 to the PSCC for environmental reporting purposes and emergency response operations. If caller is unsure if the release is nonemergency or emergency, the call will be treated as an emergency. The HAZMAT team will not respond until PSCC (911) has been notified. (See Appendix A.)

6.4 Planned Release

A planned release is a scheduled event (e.g., "quick disconnect during fueling operations") where relatively small amounts of liquid or vapors are intentionally discharged into the environment and are covered by permits and written operational procedures. A 911 call is not required. Notification should be made to the KSC Environmental Assurance Branch for appropriate reporting determination for releases greater than 4 ounces.

6.5 Nonemergency Release

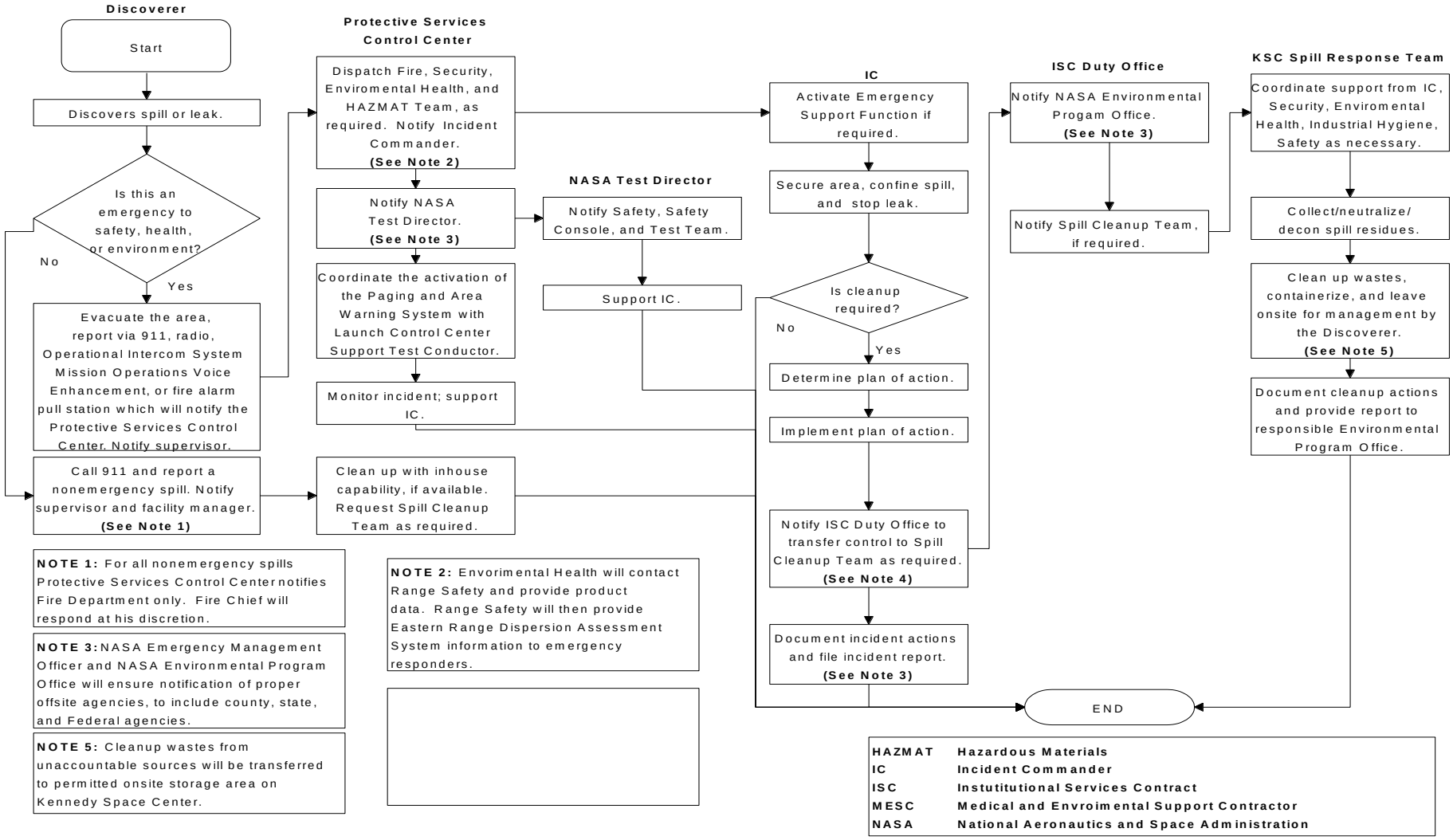
A nonemergency release is any release that does not pose a risk to health and safety of occupants or an environmental emergency that can be contained and cleaned up within the capability of the reporting organization. A nonemergency 911 call is required. The PSCC (911) shall contact fire services, and they shall respond at their determination.

6.6 Emergency Release

An emergency release is any unplanned release or condition resulting from an accidental or intentional spill or accumulation of HAZMAT in concentrations or quantities sufficient to pose a substantial, actual, or potential hazard to human health, mission impact, property, or the environment. A 911 call is required when cleanup and recovery is beyond the capability of the reporting organization.

APPENDIX A

HAZARDOUS MATERIALS EMERGENCY RESPONSE



APPENDIX B

ACRONYMS AND ABBREVIATIONS

CEMP	Comprehensive Emergency Management Plan
CFR	Code of Federal Regulations
HAZMAT	Hazardous Material
IC	Incident Commander
ISC	Institutional Services Contract
KDP	Kennedy Documented Procedure
KSC	Kennedy Space Center
NASA	National Aeronautics and Space Administration
PSCC	Protective Services Control Center